

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

RYAN, John, Peter, William
Nortel Patents
London Road
Harlow
Essex CM17 9NA
ROYAUME-UNI

Date of mailing (day/month/year) 19 March 1999 (19.03.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference	
International application No. PCT/GB98/02807	International filing date (day/month/year) 21 September 1998 (21.09.98)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent
<input type="checkbox"/> the common representative		
Name and Address STACEY, David John 28 Orchard Close Stanstead Abbots Herts SG12 8AH United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input checked="" type="checkbox"/> the person	<input checked="" type="checkbox"/> the name	<input checked="" type="checkbox"/> the address
<input checked="" type="checkbox"/> the nationality	<input checked="" type="checkbox"/> the residence	
Name and Address STACEY, David John 28 Orchard Close Stanstead Abbots Herts SG12 8AH United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary: Should be added to the records as applicant/inventor for the US.		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input checked="" type="checkbox"/> the designated Offices concerned	
<input checked="" type="checkbox"/> the International Searching Authority	<input type="checkbox"/> the elected Offices concerned	
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer I. Britel Telephone No.: (41-22) 338.83.38
--	---

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

RYAN, John, Peter, William
Nortel Patents
London Road
Harlow
Essex CM17 9NA
ROYAUME-UNI

Date of mailing (day/month/year) 19 March 1999 (19.03.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference	
International application No. PCT/GB98/02807	International filing date (day/month/year) 21 September 1998 (21.09.98)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent <input type="checkbox"/> the common representative
Name and Address HUMPHREY, Leslie Derek 9 The Swallows Harlow, Essex CM17 0AR United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input checked="" type="checkbox"/> the person	<input checked="" type="checkbox"/> the name	<input checked="" type="checkbox"/> the address <input checked="" type="checkbox"/> the nationality <input checked="" type="checkbox"/> the residence
Name and Address HUMPHREY, Leslie Derek 9 The Swallows Harlow, Essex CM17 0AR United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary: Should be added to the records as applicant/inventor for the US.		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input checked="" type="checkbox"/> the designated Offices concerned	
<input checked="" type="checkbox"/> the International Searching Authority	<input type="checkbox"/> the elected Offices concerned	
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer I. Britel Telephone No.: (41-22) 338.83.38
--	---

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark
Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 03 May 1999 (03.05.99)	
International application No. PCT/GB98/02807	Applicant's or agent's file reference
International filing date (day/month/year) 21 September 1998 (21.09.98)	Priority date (day/month/year) 22 September 1997 (22.09.97)
Applicant BRUECKHEIMER, Simon, Daniel et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

26 March 1999 (26.03.99)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Lazar Joseph Panakal
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCTCOMMUNICATION IN CASES FOR WHICH
NO OTHER FORM IS APPLICABLE

To:

RYAN, John, Peter, William
Nortel Patents
London Road
Harlow
Essex CM17 9NA
ROYAUME-UNI

Date of mailing (day/month/year) 21 December 1998 (21.12.1998)	
Applicant's or agent's file reference	REPLY DUE see paragraph 1 below
International application No. PCT/GB98/02807	International filing date (day/month/year) 21 September 1998 (21.09.1998)
Applicant NORTHERN TELECOM LIMITED	

1. ☐ REPLY DUE within _____ months/days from the above date of mailing
- ☐ NO REPLY DUE, however, see below
- ☒ IMPORTANT COMMUNICATION
- ☐ INFORMATION ONLY

2. COMMUNICATION:

The applicant in respect of the above identified international application is notified that the Receiving Office (RO/GB) has corrected the international filing date.

The international filing date should now read :

21 September 1998 (21.09.98)

instead of :

28 September 1998 (28.09.98)

A copy of this notification has been sent to the Receiving Office, the International Searching Authority and to all the Designated Offices.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer I. Britel
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

REC'D 13 DEC 1999

WIPO

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ---	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB98/02807	International filing date (day/month/year) 21/09/1998	Priority date (day/month/year) 22/09/1997
International Patent Classification (IPC) or national classification and IPC H04Q11/04		
Applicant NORTHERN TELECOM LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 26/03/1999	Date of completion of this report 09.12.1999
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Cordera, F Telephone No. +49 89 2399 8821 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/02807

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-15 as originally filed

Claims, No.:

1-11 as originally filed

Drawings, sheets:

1/15-15/15 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB98/02807

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	5,7-10
	No:	Claims	1-4,6,11
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-11
Industrial applicability (IA)	Yes:	Claims	1-11
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

The following document is cited in the International Preliminary Examination Report:

D1 = BALDWIN J H ET AL: "AAL-2 - A NEW ATM ADAPTION LAYER FOR SMALL PACKET ENCAPSULATION AND MULTIPLEXING" BELL LABS TECHNICAL JOURNAL, vol. 2, no. 2, 21 March 1997, pages 111-131, XP000695171

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Document D1 (abstract; page 116, left column, lines 19-23; page 118, lines 9-13 and 29-32; Fig. 4) discloses according to all the features of present claim 1 a method of transporting point to point protocol traffic by encapsulating it in AAL2 minicells that are then transported in a single ATM virtual channel.

As a consequence, the subject-matter of claim 1 is not novel and claim 1 does not meet the requirements of Article 33 (2) PCT.

2. In this connection, it is pointed out that even if the Applicant were to slightly modify claim 1 or to interpret it in such a manner as to enable him to allege that its subject-matter is novel, said claim would not comply with the dispositions laid down in Article 33 (3) PCT for lack of inventive step. Document D1, in fact, discloses the same object and the same type of solution as the present application.
3. The subject-matter of independent claim 11 corresponding to that of claim 1 in terms of apparatus features, the same objections raised under Article 33 PCT in respect of the latter claim also hold for independent claim 11 which, consequently, does not meet the requirements of Article 33 PCT either.
4. The additional features introduced by dependent claims 2-4,6 are also known from D1 (see respectively page 118, left column, lines 29-32; page 117, right column, lines 6-8; Fig. 2, description of the ATM cell; Fig. 5, Fig. 6).

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB98/02807

Dependent claims 2-4,6, therefore, do not meet the requirements of Article 33(2) PCT.

Also, the supplementary features specified by dependent claims 5, 7-10 do not add anything of inventive significance to the subject-matter of claim 1 as they merely refer to various implementation details which fall within the competence of the skilled person.

As a consequence, dependent claims 5, 7-10 do not meet the requirements of Article 33 (3) PCT.

VII Certain defects in the international application

The claims are not in the two-part form recommended by Rule 6.3(b) PCT and do not include reference signs in parentheses as required by Rule 6.2(b) PCT. Moreover, document D1, which appears to represent the most relevant prior art, is not acknowledged in the description (Rule 5.1 (a)(ii) PCT).

VIII. Certain observations in the international application (clarity)

The feature set out in claim 6 that "the PPP traffic comprises the ATM packet payload" is claimed twice when claim 5 is dependent on claim 4, which results in a lack of clarity against the dispositions laid down in Article 6 PCT.

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No.	International filing date (day/month/year)	(Earliest) Priority Date (day/month/year)
PCT/GB 98/ 02807	21/09/1998	22/09/1997
Applicant		
NORTHERN TELECOM LIMITED et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (see Box I).

2. ☐ Unity of invention is lacking (see Box II).

3. ☐ The international application contains disclosure of a **nucleotide and/or amino acid sequence listing** and the international search was carried out on the basis of the sequence listing

☐ filed with the international application.

☐ furnished by the applicant separately from the international application,

☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.

☐ Transcribed by this Authority

4. With regard to the **title**, ☒ the text is approved as submitted by the applicant

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this International Search Report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is:

Figure No. 8 ☐ as suggested by the applicant.

☐ None of the figures.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/02807

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 H04Q11/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>BALDWIN J H ET AL: "AAL-2 - A NEW ATM ADAPTION LAYER FOR SMALL PACKET ENCAPSULATION ANDMULTIPLEXING"</p> <p>BELL LABS TECHNICAL JOURNAL, vol. 2, no. 2, 21 March 1997, pages 111-131, XP000695171</p> <p>see page 111, column 2, line 10 - page 114, column 1, line 13</p> <p>see page 116, column 1, line 6 - page 120, column 2, line 10</p> <p>---</p> <p>-/--</p>	1-4, 10, 11

☒ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

27 January 1999

Date of mailing of the international search report

05/02/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Gregori, S

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/02807

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

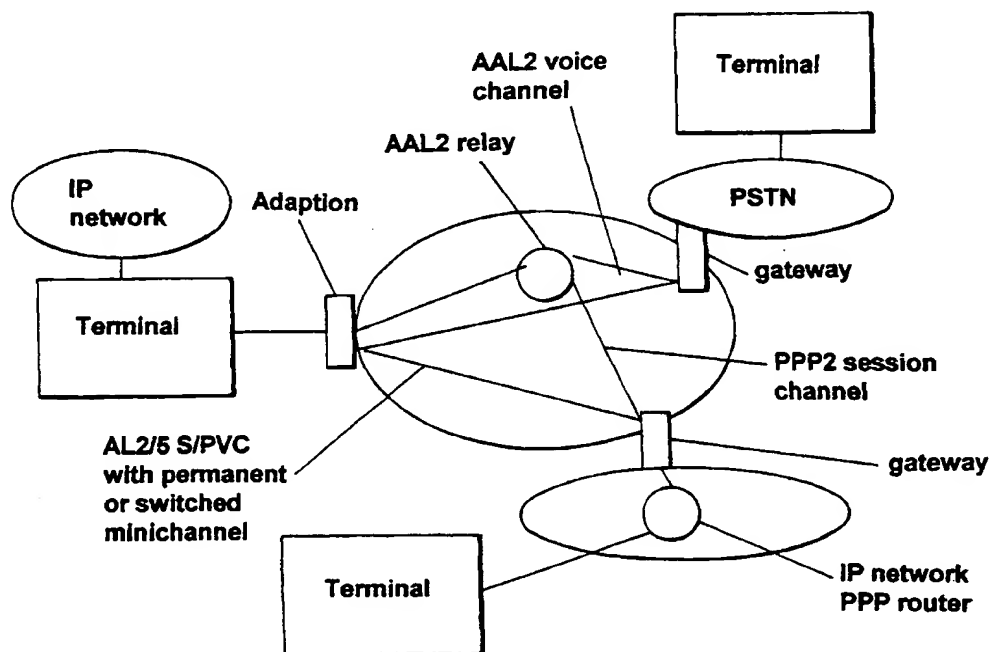
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>ENEROTH G ET AL: "ATM TRANSPORT IN CELLULAR NETWORKS" ISS '97. WORLD TELECOMMUNICATIONS CONGRESS. (INTERNATIONAL SWITCHIN SYMPOSIUM), GLOBAL NETWORK EVOLUTION: CONVERGENCE OR COLLISION? TORONTO, SEPT. 21 - 26; 1997, vol. 2, 21 September 1997, pages 139-146, XP000704463 ABDALLAH ABI-AAD ET AL * section 2 *</p> <p style="text-align: center;">---</p>	1-11
A	<p>SCHOEN U ET AL: "CONVERGENCE BETWEEN PUBLIC SWITCHING AND THE INTERNET" ISS '97. WORLD TELECOMMUNICATIONS CONGRESS. (INTERNATIONAL SWITCHIN SYMPOSIUM), GLOBAL NETWORK EVOLUTION: CONVERGENCE OR COLLISION? TORONTO, SEPT. 21 - 26, 1997, vol. 1, 21 September 1997, pages 549-560, XP000720563 ABE S ET AL * abstract * see page 553; column 2, line 22 - line 28; figure 3.1</p> <p style="text-align: center;">-----</p>	1-11



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04Q 11/04	A1	(11) International Publication Number: WO 99/16283 (43) International Publication Date: 1 April 1999 (01.04.99)
(21) International Application Number: PCT/GB98/02807 (22) International Filing Date: 21 September 1998 (21.09.98) (30) Priority Data: 9720130.5 22 September 1997 (22.09.97) GB (71) Applicant (for all designated States except US): NORTHERN TELECOM LIMITED [CA/CA]; World Trade Center of Montreal, 8th floor, 380 St. Antoine Street West, Montreal, Quebec H2Y 3Y4 (CA). (72) Inventor; and (75) Inventor/Applicant (for US only): BRUECKHEIMER, Simon, Daniel [GB/GB]; 74 Church Crescent, London N10 3NE (GB). (74) Agent: RYAN, John, Peter, William; Nortel Patents, London Road, Harlow, Essex CM17 9NA (GB).		(81) Designated States: CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i>

(54) Title: TRANSPORTING MULTIPROTOCOL DATAGRAMS



(57) Abstract

Point to point protocol (PPP) traffic is transported over an asynchronous transport link by encapsulating the traffic in AAL2 minicells and transporting the minicells in a single virtual circuit. Minicells from a number of users can be multiplexed in the same virtual circuit.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Licchtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		